

Satisfaction Level of Patients Wearing Removable Dental Prosthesis According to Oral Health Index Profile-14

Removable
Dental
Prosthesis
According to
Oral Health

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ABSTRACT

Objective: To determine the level of satisfaction of patients using removable dental prosthesis according to Oral health index profile-14(OHIP-14).

Study Design: Cross-sectional descriptive study

Place and Duration of Study: This study was conducted at the Rehmat Memorial Dental Hospital, Women Medical Dental College Abbottabad, from June 2019 to Feb 2020.

Materials and Methods: A total of 207 both genders, with ages ranging between 20 to 70 years, wearing acrylic removable dentures for at least one year, and no signs of pathology in remaining natural teeth were included. Patients wearing cast partial dentures, with defects of jaws, neuromuscular or neurotic disorders, drug addicts, uncooperative, unwilling and handicapped were excluded.

Results: The females were 112(54.11%) and males were 95(45.89%). The mean age of the study was 51.94±11.62 years. The mean duration of wearing RPDs was 2.99±1.63 years. The mean OHIP-14 Score was 23.2±7.16. The OHIP score among females were more (24.27±7.17) than males (21.94±6.989). The satisfaction with RPDs wearing increased as the duration of denture use increase (P=0.005). Comparison of OHIP-14 score among age groups showed that patients satisfaction with RPDs wearing was not affected by age of the patient (P=0.191).

Conclusion: Our mean OHIP-14 Score is lower than international studies showing less satisfaction with removable partial denture. The females were more satisfied with wearing RPDs than males. The satisfaction with RPDs wearing increased as the duration of denture use increase. Patient's satisfaction with RPDs wearing was not affected by their age.

Key Words: Patient's satisfaction, removable partial denture, removable denture, Oral Health Index Profile-14.

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INTRODUCTION

Dental problems have high prevalence and they affect various aspects of life including economic, social, physical and psychological aspects of life.¹ According to world health organization (WHO), Health is defined as individual's perception of their position in life in context of the culture and value system in which they live and in relation to their goals, expectations, standards and concerns.²

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As self-esteem is more of a psychological concept therefore, even the common dental disorders like dental trauma, tooth loss and untreated carious lesions may affect the self-esteem which may further affect the quality of an individual's life.³ The loss of teeth can impair function, esthetics and phonation and is restored in most of the cases with prosthesis.⁴

Conventional dentures are still the treatment of choice in many cases for both economic and biological reasons. However, most of the denture wearers are not satisfied with their dentures. Conflicting results have been reported regarding associations with denture acceptance; yet emotional and psychological factors play an important role in the acceptance of dentures. The satisfaction with the use of removable denture depends on the patient's ability to adapt to the function of the dentures as well as adaptation at the emotional level.⁵

Only clinical indicators are not sufficient to describe the condition of general health and oral health. Some indices are used to evaluate oral health related quality of life such as Oral Health Index Profile(OHIP)-49 and the shorter version OHIP-14.

The English language OHIP questionnaire was developed in Australia by Slade and Spenser. It contains 49 statements that are grouped into seven domains based on a model of oral health. It is made upon a framework of WHO classification of impairments, disabilities and handicaps. Other than original English version OHIP-14 is translated in Chinese, German and Sinhalese language and it demonstrates cross cultural equivalence.⁶

In a previous study, patients with complete dentures in both jaws were less satisfied (28.25 ± 3.67) than patients with single complete denture (35.12 ± 2.11). The result obtained of that study showed dissatisfaction with conventional dentures among edentulous patients.⁵

The aim of this study is to analyze and assess the satisfaction of patients using removable dental prosthesis in Abbottabad region since such studies have not been carried out in this region of Pakistan. This study will help us to assess and remove the complaints of patients using such prosthesis.

MATERIALS AND METHODS

This study was conducted at Rehmat Memorial Dental Teaching Hospital Abbottabad. A total of 207 both genders, with ages ranging between 20 to 70 years, wearing acrylic removable dentures for at least one year, and no signs of pathology in remaining natural teeth were included. Patients wearing cast partial dentures, with defects of jaws, neuromuscular or neurotic disorders, drug addicts, uncooperative, unwilling and handicapped were excluded. Intra oral examination was done to record the removable prosthesis in one or both arches of each patient. OHIP-14 questionnaire was used to measure the variables of satisfaction with removable partial denture (RPD). 95% confident interval was calculated for mean OHIP level. Mean for stratified data based on gender, age, and duration of denture was calculated. Post stratification t-test in the of case of comparing gender and one way ANOVA in case of duration of denture and age groups was calculated at ≤ 0.05 .

RESULTS

Of total 207 participants, the females were 112(54.11%) and males were 95(45.89%), shown in (Fig 7). The most common age group wearing removable partial denture was 51-60 years (n=61, 29.5%) followed by 61-70 years (n=57, 27.5%). There were 51(24.6%) participants in age group 41-50 years and 28(13.5%) in age group 31-40 years. The least number of RPD wearers were belonged to age group 0-30 years.(Table 1)

The common duration of RPD wearing was 1 to 2 years in which there were 87(42%) participants followed by 2.1 to 4 years (n=73, 35.3%). 42(20.3%) patients used

RPD for 4.1 to 6 years and 5(2.4%) patients for above 6 years. The details are shown in table 2.

The mean age of the study was 51.94 ± 11.62 years with range from 25 to 70 years. The mean duration of wearing RPDs was 2.99 ± 1.63 years. The mean OHIP-14 Score was 23.2 ± 7.16 with range of 2 to 39. The 95% CI of OHIP-14 Score was 22.2 - 24.2. (Table 3)

The OHIP score of among females were more (24.27 ± 7.17) than males (21.94 ± 6.989) showing that females were satisfied with wearing RPDs than males. The results were statistically significant ($P=0.019$; 95% CI=-4.28, -.382). (Table 4)

The satisfaction with RPDs wearing increased as the duration of denture use increased. The OHIP-14 score was 22.02 ± 6.943 upto 2 years duration of denture wear while it was 29 ± 4 in above 6 years denture wear duration. The results were statistically significant ($P=0.005$). The details are given in table 5.

Comparison of OHIP-14 score among age groups showed that patients satisfaction with RPDs wearing was not affected by age of the patient ($P=0.191$). The detailed statistics are given in the table 6.

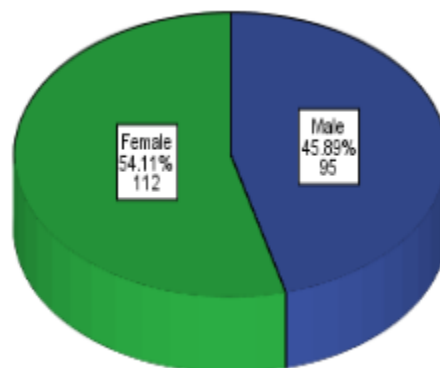


Figure No. 1: gender Distribution

Table No.1: Age distribution of the study

Age groups	Frequency	Percent
20-30	10	4.8
31-40	28	13.5
41-50	51	24.6
51-60	61	29.5
61-70	57	27.5
Total	207	100

Table No.2: Distribution of denture wearing duration

Duration of RPD use (years)	Frequency	Percent
01-2	87	42
2.1-4	73	35.3
4.1-6	42	20.3
6.1 and above	5	2.4
Total	207	100

Table No.3: Mean and standard deviation of age, duration of denture wearing and OHIP-14 score

Variable	Mean \pm SD	Range	95% CI
Age (years)	51.94 \pm 11.62	25-70	-
Duration of wearing denture (years)	2.99 \pm 1.63	1-7	-
OHIP-14 Scores	23.2 \pm 7.16	2-39	22.2 - 24.2

*CI, confident interval

Table No.4: Comparison of OHIP-14 score between males and females

Gender	Mean \pm SD	P-Value*	95% CI
Male (n=95)	21.94 \pm 6.989	.019	-4.28, -.382
Female (n=112)	24.27 \pm 7.17		

*Independent t test; P \leq 0.05 significant level

Table No.5: Comparison of OHIP-14 score by duration of RPD wearing

Duration of RPD wearing (years)	OHIP-14 score	95% CI	P-Value*
	Mean \pm SD		
01-2	22.02 \pm 6.943	20.54, 23.5	0.005
2.1-4	22.6 \pm 7.28	20.9, 24.3	
4.1-6	25.98 \pm 6.831	23.85, 28.1	
6.1 and above	29 \pm 4	24.03, 33.97	
Total	23.2 \pm 7.165	22.22, 24.18	

*one-way ANOVA test; P \leq 0.05 significant level

Table No.6: Comparison of OHIP-14 score among age groups

Age group (years)	OHIP-14 Score	95% CI	P-Value
	Mean \pm SD		
20-30	25.2 \pm 5.673	21.14, 29.26	0.191
31-40	23.29 \pm 8.781	19.88, 26.69	
41-50	23.61 \pm 7.3	21.55, 25.66	
51-60	21.43 \pm 6.079	19.87, 22.98	
61-70	24.33 \pm 7.332	22.39, 26.28	
Total	23.2 \pm 7.165	22.22, 24.2	

DISCUSSION

The objective of this study was to determine the level of satisfaction of patients using removable dental prosthesis according to oral health index profile-14. Our findings showed that the mean OHIP-14 Score was 23.2 \pm 7.16. The females were satisfied with wearing RPDs than males. The satisfaction with RPDs wearing increased as the duration of denture use increased. Patient's satisfaction with RPDs wearing was not affected by their age.

Only clinical indicators are not sufficient to describe the condition of general health and oral health. Some indices are used to evaluate oral health related quality

of life such as Oral Health Index Profile (OHIP)-49 and the shorter version OHIP-14. We used OHIP-14 in our study. Similar indices were used in previous studies.⁵ The OHIP-14 is derived from the original 49-item OHIP questionnaire. It assesses seven dimensions of impact, including functional limitations, pain, psychological discomfort, physical disability, psychological disability, social disability, and handicap. In terms of respondent burden, both the ODP and OHIP-14 inventories are relatively short and thus suitable for use in population surveys. Both measures seem to perform well using un-weighted, rather than weighted, scores, although the individually sensitive weighting system of the ODP inventory gives prominence and increased validity to respondent views.⁷

Rehabilitation of patients with removable partial dentures (RPD) is a continuous process and requires attention to the specific needs of the patients. Patients should be physically and psychologically prepared to accept a treatment with RPDs.⁸ Satisfaction with RPD depends on individuality of patients, attitude towards RPD, previous RPD experience, encouragement for denture and design and fabrication procedure for RPD. Retention, chewing ability, aesthetics, seem to be the most important factors for RPD acceptance.⁹ Patient's dissatisfaction with removable partial denture also depends on some of reasons such as risk to local damage of the remaining teeth, for e.g. caries, periodontal disease, plaque accumulation, oral candidiasis, denture stomatitis, etc. Also, RPD is an aesthetic problem for most people and can affect the appearance and interpersonal communication.⁸

Al-Baker et al.⁵ compared the oral health-related quality of life (OHRQoL) between patients with both maxillary and mandibular complete denture and those with either the maxillary or the mandibular complete denture. They reported that the mean OHIP score with conventional removable denture was 35.12 \pm 2.11. Their OHIP-14 score was little higher than our study. The difference can be due to proper fabrication of RPDs and level of expectation among patients.

Our low score of OHIP-14 with RPDs showed that most of patients are not satisfied. Similar results were found in previous studies.^{5,10} An alternative treatment plan to overcome the inadequacy of conventional treatment would be well accepted among such patients, thereby improving their functional as well as aesthetic limitations. The implant supported over dentures claims to be the best standard of care for edentulous patients and is said to improve the quality of life, stability and retention.¹¹

Our results showed that females were satisfied with removable denture than males. This may represent more compliance level of females than males. However

another conducted on predictors of patient satisfaction with removable denture showed that males were more satisfied. This difference can be attributed to genetic, environmental and ethnic reasons.¹²

Published literatures report that implant-supported dentures, either complete over denture or fixed complete denture, significantly improves the quality of life for edentulous patients compared with conventional removable complete denture.¹³ Functional and psychosocial disability experienced by the denture wearer will definitely influence the option for dental implant therapy and prosthetic rehabilitation. For older edentulous subjects, the general health and financial status is of concern while preferring implant retained overdentures over conventional dentures.¹⁴

Our results showed that patient's satisfaction with RPDs wearing was not affected by their age. However, other studies showed that the mean OHIP score tend to increase with increase in age.^{5,15}

Our findings showed that with increase duration of wearing removable partial denture the satisfaction of patient increases. This was shown by OHIP-14 score was more in above 6 years wearers than less than 6 years. This can be due to adjustment of patients with time and adaptation of oral tissue.¹⁶

Our studies have many limitations. One of the limitations is the recall bias as many patients may remember the proper duration of their denture wearing. The second is we do not consider whether the RPDs were properly fabricated and who provide the RPDs. So, more studies of prospective cohort design are required to explore further this area.

CONCLUSION

- Our mean OHIP-14 Score is lower than international studies showing less satisfaction with removable partial denture.
- The females were satisfied with wearing RPDs than males.
- The satisfaction with RPDs wearing increased as the duration of denture use increase.
- Patient's satisfaction with RPDs wearing was not affected by their age.

Author's Contribution:

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Conflict of Interest: The study has no conflict of interest to declare by any author.

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